

REMARKS

Reexamination and reconsideration of the present application are requested.

Applicant has amended claims 1-10, and added new claims 11-17. Accordingly, claims 1-17 remain pending in the application.

35 U.S.C. § 102 and 103

The Office Action rejected claims 1-7 and 10 under 35 U.S.C. § 102 over Martel U.S. Patent 3,344,280 ("Martel"), and claims 8-9 under 35 U.S.C. § 103 over Martel.

Applicant respectfully submits that claims 1-10 are all patentable over Martel for at least the following reasons.

Claim 1

Among other things, the display device of claim 1 includes a photoluminescent material for emitting light when excited by an excitation means, and each one of the pixel elements is provided with modulating means a modulating means for modulating an emission of light by the photoluminescent material.

Applicant respectfully submits that Martel fails to disclose or suggest a device having this combination of features.

At the outset, Applicant notes that Martel teaches that reference numeral 14 corresponds to an electroluminescent layer, not a photoluminescent material as recited in claim 1.

Meanwhile, Martel teaches that reference numeral 16 corresponds to a

phosphorescent layer, but Martel does **not** disclose that each one of the pixel elements is provided with modulating means for modulating an emission of light by the phosphorescent layer 16. In that regard, in particular Applicant respectfully submits that Martel does **not** teach that the elements 12, 18 and 22, cited in the Office Action, modulate an emission of light by the phosphorescent layer 16.

Accordingly, for at least these reasons, Applicant respectfully submits that the device of claim 1 is patentable over Martel.

Claim 2

Claim 2 has been amended simply to rewrite it in independent form for clarity, without adding any additional limitations or features.

Among other things, the display device of claim 2 includes a luminescent material for emitting light when excited by means for generating electromagnetic radiation, and that each one of the pixel elements is provided with modulating means for modulating an emission of light by the luminescent material.

The Office Action has cited reference numerals 14 AND 16 as supposedly corresponding to the recited luminescent material. Meanwhile, Martel teaches that reference numerals 14 and 16 correspond to **two completely different materials**. Element 14 is an electroluminescent layer, while element 16 is a phosphorescent layer.

Accordingly, Martel does **not** teach that electroluminescent layer 14 emits light when excited by **electromagnetic radiation**, but rather emits light in response an alternating voltage impressed across it (see, e.g., col. 4, lines 43-45). So element 14 cannot correspond to the luminescent material recited in claim 2

Meanwhile, although the phosphorescent layer 16 does emit light when excited by electromagnetic radiation from ultraviolet light source 24, Martel does **not** disclose that **each one of the pixel elements is provided with modulating means for modulating an emission of light** by the phosphorescent layer 16. In that regard, in particular Applicant respectfully submits that Martel does not teach that the elements 12, 18 and 22, cited in the Office Action, modulate any emission of light by the phosphorescent layer 16.

That is, Martel discloses a device having two different types of luminescent materials - photoluminescent layer 16 and electroluminescent layer 14 - where the first (photoluminescent) material emits light in response to electromagnetic radiation, while light produced by the second (electroluminescent) material is modulated by the voltage impressed across it by the electrodes 12 and 18. In contrast, in the device of claim 2, a single luminescent material emits light in response to electromagnetic radiation, while the light produced by that material is modulated by a separate modulating means (e.g., electrodes disposed on either side).

So, Applicant respectfully submits, the device of claim 2 is quite different from the device disclosed by Martel, and Martel does not disclose the device of claim 2.

Accordingly, for at least these reasons, Applicant respectfully submits that the device of claim 2 is patentable over Martel.

Claim 3

Claim 3 depends from claim 2 and is deemed patentable over Martel for at least the reasons set forth above with respect to claim 2.

Claims 4-10

Claims 4-10 depend from claim 1 and are deemed patentable over Martel for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Claim 5

Among other things, in the display device of claim 5, the modulating means comprise means for applying an electric field to the photoluminescent material. Applicant respectfully submits that Martel does not teach that the light emitted by the phosphorescent layer 16 is modulated by any means for applying an electric field to the phosphorescent layer 16. Instead, Martel teaches that that the light emitted by the phosphorescent layer 16 is modulated by the ultraviolet light source 24 (see, e.g., col. 4, lines 9-13).

New Claims 11-17

New claims 11-17 depend variously from claims 1 and 2 and are deemed patentable over Martel for at least the reasons set forth above with respect to claims 1 and 2, and for the following additional reasons.

Claim 12

Among other things, in the display device of claim 12, the means for modulating an emission of light by the photoluminescent material comprises a pair of electrodes disposed on opposite sides of the photoluminescent material and means for impressing an electric field across the pair of electrodes.

Applicant respectfully submits that Martel does not disclose any device where emission of light by a photoluminescent material is modulated by a pair of electrodes disposed on opposite sides of the photoluminescent material and means for impressing an electric field across the pair of electrodes.

Claim 13

Among other things, in the display device of claim 12, the means for modulating an emission of light by the photoluminescent material comprises a pair of electrodes disposed on opposite sides of the photoluminescent material and means for impressing an electric field across the pair of electrodes, and wherein the excitation means comprises a light emitting diode.

Applicant respectfully submits that Martel does not disclose any device including such a combination of features.

CONCLUSION

In view of the foregoing explanations, Applicant respectfully requests that the Examiner reconsider and reexamine the present application, allow 1-17, and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (703) 715-0870 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §

1.17, particularly extension of time fees.

Respectfully submitted,

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